

**CHAPTER 7**  
**SCIENCE INQUIRY**

BLM 7-14

# Refraction: Light Changes Direction

**Goal** • Use this page to review how light bends when it travels from one material to another.

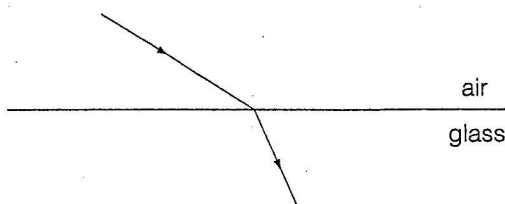
## Introduction

- When light moves from one medium (such as air) to another (such as water), the light bends. This is called refraction. The light bends because it changes speed when it moves between materials that have different densities. The diagrams below illustrate refraction. For example, in A, the light ray travelled through the air and entered glass. In B, the light ray travelled up from water and entered the air.

## What to Do

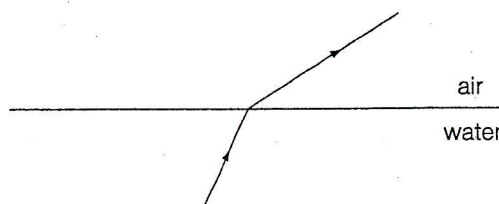
- For each diagram, draw the normal at the point of contact. Measure the incident angle and the angle of refraction. Then complete the sentences.

(a) Air to glass



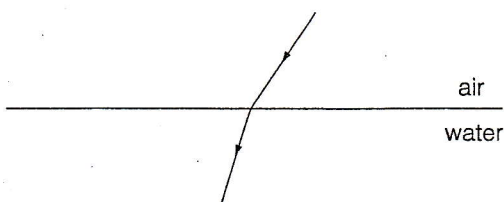
The angle in air is \_\_\_\_\_ than the angle in the glass. (*greater* or *less*)  
 The light entering the glass bends \_\_\_\_\_ the normal (*toward* or *away from*)

(b) Water to air



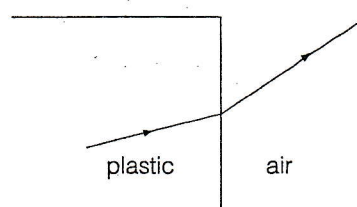
The angle in air is \_\_\_\_\_ than the angle in the water. (*greater* or *less*)  
 The light entering the air bends \_\_\_\_\_ the normal. (*toward* or *away from*)

(c) Air to water



The angle in air is \_\_\_\_\_ than the angle in the water. (*greater* or *less*)  
 The light entering the water bends \_\_\_\_\_ the normal. (*toward* or *away from*)

(d) Transparent plastic to air



The angle in air is \_\_\_\_\_ than the angle in the plastic. (*greater* or *less*)  
 The light entering the air bends \_\_\_\_\_ the normal. (*toward* or *away from*)